

Appl. No. 09/764,561  
Atty. Docket No. 8386  
Amdt. dated February 4, 2005  
Reply to Office Action of November 4, 2004  
Customer No. 27752

#### REMARKS

Claims 1, 3-9, 12-15, 22-25 and 41 and 42 are pending in the present application. Claims 28-40 and Claim 43 have been withdrawn from consideration in view of a previous Restriction Requirement for which the Applicant elected an invention with traverse. No additional claim fees are believed necessary.

Claim 1 has been amended to more specifically characterize and define the present invention. Claim 1 has been amended by incorporating the subject matter wherein the anhydrous liquid emulsifiable concentrate of a reactive agent self emulsifies or spontaneously emulsifies upon dilution with water or a separate aqueous composition, to form an aqueous micro- or macro- emulsion either immediately prior to or simultaneous to application to a substrate. The preamble has further been amended wherein the invention is directed toward an anhydrous liquid emulsifiable concentrate of a reactive agent. Support for these amendment is found in the Specification on page 4, lines 25-28 and on page 4, line 14, respectively.

By the above amendment, Applicant has addressed the claim rejection under 35 U.S.C. 112, second paragraph.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested. Any additional claims fee due as a result of these amendments is charged to the Assignee's Deposit Account via the attached cover sheet.

#### Art Rejections

##### 35 U.S.C. § 103(a)

Claims 1, 3-9, 12-15, 22-25 and 41 and 42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gough et al, U.S. 5,525,332, collectively "Gough", in view of Deppert et al, U.S. Patent 5,087,733, collectively "Deppert". The Examiner has asserted that it would have been obvious for one of skill in the art to use the teachings of Deppert within the teachings of Gough because both Deppert and Gough teach that similar effective conditioning results could be achieved and both teach that the claimed polymers are useful due to their chemical affinity to substrates including hair. The expected result would be an effective hair conditioning formulation for the treatment of hair. Applicant respectfully traverses this rejection.

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Gough discloses a cosmetic composition, especially for providing a conditioning benefit to hair, incorporating an azalactone-functionalized copolymer consisting of vinyl azalactone and methacryloyl polymethysiloxane monomers. Gough teaches preferred azalactone functionalized materials which are water soluble or soluble in water/alcohol, to enable compositions to be prepared as aqueous or aqueous/alcoholic solutions or emulsions. (Column 7, lines 49-54) or alternatively, the active materials may be soluble/dispersible in organic solvents only, e.g., alcohols, hydrocarbons, etc. to make them particularly suitable for formulation into mousse- or spray- type products (Column 7, lines 60-64). As the Examiner has kindly pointed out, Gough is silent as to a nucleophilic reactive group of thiol type reactive agents, as taught in the present invention.

Deppert discloses processes for conditioning human hair by treatment with selected sulfur containing quaternary ammonium compounds, compositions useful for such processes and novel quaternary compounds useful for the processes. The Examiner has further asserted that Deppert teaches a nucleophilic reactive group of thiol type reactive agents at Example IV, column 6, and such thiol reactive agents are used in conditioning of hair substrates and due to their molecular structure, the molecules are capable of forming covalent bonds with the sulfhydryl radicals of the hair (col. 9).

As now amended, the present invention discloses and claims the combination of a specific surfactant system comprising the combination of a C<sub>8</sub>-C<sub>16</sub> alkyl ethoxylate with two to seven ethoxylates with a dispersing aide selected from one or more of a C<sub>5</sub>-C<sub>10</sub> alcohol and further wherein the liquid emulsifiable concentrate of a reactive agent self emulsifies or spontaneously emulsifies upon dilution with water or a separate aqueous composition, to form an aqueous micro- or macro- emulsion either immediately prior to or simultaneous to application to a substrate.

In the present invention, it has been surprising found that this specific surfactant system enables the anhydrous liquid emulsifiable concentrate achieve the low interfacial tension self/spontaneous emulsification. Such low energy emulsification with minimal or no agitation by the consumer, e.g., by soft shaking of bottle or suitable container, is achieved via inclusion of specialized surfactants system with the specified dispersing aide within the liquid concentrate that achieve ultra-low interfacial tension. The reactive agent

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retains its chemical stability within the anhydrous formulation during the shelf life of the product.

Applicant has found that consumers prefer aqueous formulations to be applied to their hair skin (e.g., emulsions) and Applicant has created a means to achieve such an *aqueous* application (emphasis added) from a chemically shelf stable emulsifiable *concentrate* (emphasis added) – requiring a specific surfactant system plus dispersing aide with low interfacial tension to *enable* emulsification (emphasis added) upon dilution with water or separate aqueous composition vs. conventional use of laboratory or industrial mixing equipment.

Applicant respectfully traverses the above mentioned rejection. Applicant would like to point out to the Examiner that the present invention, as now amended, is clearly not directed solely toward a *conventional emulsion* (emphasis added) as readily understood by one of skill in the art and as the Examiner has stated to be taught in the cited references, nor is the present invention solely directed toward a *conventional solvent-based anhydrous formulation* (emphasis added) as the Examiner has stated to be taught in the cited references. Rather, the present invention, as now amended, is directed to an *in-situ creation* (emphasis added) of a consumer preferred emulsion via having an anhydrous solvent-based chemically stable concentrate of the reactive agent self emulsify or spontaneously emulsify upon dilution water or dilution with a SEPARATE aqueous composition – and for this self or spontaneous emulsification to happen, a SPECIFIC low interfacial surfactant system + dispersing aide is required to enable the spontaneous/self emulsification to occur. Clearly, this is not taught or even hinted in Gough or Deppert.

The Examiner has asserted that that the Applicant's argument that the instant "emulsifiable concentrates provide for acceptable chemical shelf stability" is not persuasive since the prior art desires *stable emulsions* (emphasis added) wherein the one or more functionalized cosmetic agents are designed to be water in-soluble. However, the Applicant in such statement was not referring to emulsion phase stability. It is the emulsifiable *concentrate* of a reactive agent (emphasis added) that is been found to have chemical shelf stability. Specifically, as stated in the specification, page 2, line 1-9.

It is highly desirable to formulate and apply hair care products as aqueous solutions or aqueous emulsions for a number of consumer preferred attributes. Aqueous solutions provide superior ease of rinsing, hair feel, less coating of bathroom tiles, etc. than oil

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based compositions. However, attaining such aqueous compositions is problematic. The reactive groups or "hook" moieties which are reactive towards amino acid residues, are also reactive towards electron rich ingredients that are employed in the formulation of consumer products to deliver these actives, including water and even atmospheric oxygen. This leads to pre-mature decomposition of the "hooks" compounds, referred to herein as *reactive agents*, over the shelf life of the product which severely or completely mitigates reactive efficacy with hair upon usage by the consumer. (emphasis added).

Therefore, it is the liquid emulsifiable *concentrate*, (emphasis added), previously discussed by Applicant, that provides for a surprising benefit of chemical shelf stability. Neither Gough nor Deppert teach a chemically shelf stable liquid emulsifiable concentrate.

Applicant kindly states that in order to establish a prima facie cast of obviousness, the Examiner must show that (1) there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there is a reasonable expectation of success, and (3) all of the limitations of the claims are taught or suggested in the prior art (M.P.E.P. § 2143).

None of the references establish a prima facie case of obviousness because they do not teach or suggest all of Applicant claim limitations. In the present case, and with respect to Claims 1, 3-9, 12-15, 22-25 and 41 and 42, neither of the references teach a treatment composition comprising an anhydrous liquid emulsifiable concentrate of a reactive agent a reactive agent is comprised of one or more reactive groups of the electrophilic, nucleophilic or protected thiol type; a water immiscible solvent, a surfactant selected from one or more of a C<sub>8</sub>-C<sub>16</sub> alkyl ethoxylate with two to seven ethoxylates, and a dispersing aide selected from one or more of a C<sub>5</sub>-C<sub>10</sub> alcohol *wherein the anhydrous liquid emulsifiable concentrate of a reactive agent self emulsifies or spontaneously emulsifies upon dilution with water or a separate aqueous composition, to form an aqueous micro- or macro- emulsion either immediately prior to or simultaneous to application to a substrate* (emphasis added), as the present application is now amended.

Applicant would like to point out to the Examiner that the present invention, as now amended, is clearly not directed toward a *conventional emulsion* (emphasis added) as readily understood by one of skill in the art and cited by the Examiner in Gough and Deppert, nor is the present invention solely directed toward a *conventional solvent-based*

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*anhydrous formulation* (emphasis added) as the Examiner has stated to be taught in Gough and Deppert. Rather, the present invention, as now amended, is directed to an *in-situ creation* (emphasis added) of a consumer preferred emulsion via having an anhydrous solvent-based chemically stable concentrate of the reactive agent self emulsify or spontaneously emulsify upon dilution water or dilution with a SEPARATE aqueous composition – and for this self or spontaneous emulsification to happen, a SPECIFIC low interfacial surfactant system + dispersing aide is required to enable the spontaneous/self emulsification to occur. Clearly, these claim limitations are not taught or even hinted in Gough or Deppert.

In summary, neither Gough nor Deppert establish a prima facie case of obviousness because all of the limitations of the claims are not taught or suggested in the prior art. Therefore, Applicant contends that the claimed invention is unobvious and that the rejection should be withdrawn.

#### Conclusion

In light of the above remarks, it is requested that the Examiner reconsider and withdraw the rejection under 35 U.S.C 103(a). Early and favorable action in the case is respectfully requested.

Applicant has made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicant respectfully request reconsideration of this application, entry of the amendments presented herein, withdrawal of the rejections under 35 U.S.C § 103, and allowance of Claims 1, 3-9, 12-15, 22-25 and 41 and 42.

Respectfully submitted,

THE PROCTER & GAMBLE COMPANY

By Linda M. Sivik  
Linda M. Sivik  
Agent for Applicant  
Registration No. 44,982  
(513) 626-4122

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